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ADOPTION OF CASHLESS PAYMENT TOWARDS MALAYSIAN CITIZEN IN TAPAH

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Abstract:

The adoption of cashless payment systems in Malaysia has grown significantly, yet many citizens particularly in rural and less technologically developed areas still prefer traditional cash transactions. This study investigates the factors influencing the acceptance of cashless payment systems among Malaysian citizens in Tapah, using the Unified Theory of Acceptance and Use of Technology (UTAUT) framework. A structured questionnaire collected data from 384 respondents through convenience sampling, supported by descriptive analysis and multiple linear regression. Findings reveal that performance expectancy, effort expectancy, and social influence significantly impact users' acceptance of cashless payment systems. Among these, performance expectancy showed the strongest influence, followed by effort expectancy and social influence. The data also indicate that preference for cashless methods strongly correlates with adoption, while income level did not have a statistically significant effect. Descriptive results show a generally positive perception toward digital transactions, particularly among younger, urban participants. The study's results confirm that systems perceived as efficient, easy to use, and endorsed by peers are more likely to be adopted. The findings provide useful insights for financial institutions, technology developers, and policymakers to enhance adoption by focusing on user-friendly system design, public education, and addressing social trust. By understanding the behavioral drivers behind digital payment use, this research supports Malaysia's vision of fostering a secure, inclusive, and cashless digital economy. For future research, stratified random sampling should be considered across different Malaysian states or incorporate qualitative interviews to explore user attitudes in depth. Additional variables, such as perceived risk, trust, and facilitating conditions,

could also be explored to provide a more comprehensive understanding of digital payment behavior.

Keywords:

Cashless Payment, UTAUT, Performance Expectancy, Effort Expectancy, Social Influence

Introduction

The global shift toward a cashless society has accelerated recently, and Malaysia is actively following this trend, particularly spurred by events such as the COVID-19 pandemic. Despite numerous government initiatives promoting digital transactions and advancements in financial technology, cash continues to be the dominant mode of payment in Malaysia. As of 2020, approximately 72% of all transactions were still made in cash (Lu & Kosim, 2024), reflecting persistent infrastructure challenges, deep-rooted cultural practices, and notable resistance among lower-income and rural communities (Kamis et al., 2023a). While the government envisions achieving a fully cashless society within the next decade, overcoming these challenges remains a significant hurdle. To better understand the factors influencing the adoption of cashless payments, this study utilizes the Unified Theory of Acceptance and Use of Technology (UTAUT) model, focusing on three primary constructs: performance expectancy, effort expectancy, and social influence. Performance expectancy refers to the belief that using a cashless payment system will enhance users' efficiency and performance (Namahoot & Boonchieng, 2023). Effort expectancy pertains to the perceived ease of using digital payment systems, while social influence captures the effect of societal and peer opinions on an individual's decision to adopt such technologies.

Although there has been encouraging growth in digital transactions, rising from RM7.2 billion in 2021 to RM11.5 billion in 2023 (Selva Raj, 2024), a significant portion of the Malaysian population, particularly in non-urban areas, still prefers cash payments. The Payments Network Malaysia Sdn Bhd. (2022) revealed that 48.4% of Malaysians favor cash for everyday purchases, largely due to habits, the perceived safety of cash, and concerns about technological failures. In addition, demographic factors such as age, gender, and geographic location continue to influence the uneven adoption of cashless systems, with younger, urban consumers showing faster adoption compared to older, rural populations. Increasing cybersecurity risks compound the challenges of adoption. As the world becomes more interconnected through digital technology, cybercrimes targeting financial institutions and digital payment platforms are surging. Between 2021 and 2023, cyberattacks rose dramatically, with more than 343 million victims recorded in 2023 alone (Mariah, 2024). Concerns about fraud, identity theft, and data breaches make consumers wary of fully embracing digital payment systems. Therefore, acceptance of cashless payment methods must be approached with a comprehensive strategy that highlights not only the benefits but also addresses consumer fears and infrastructural shortcomings.

For consumers, the findings will highlight the various advantages of cashless transactions, including greater convenience and speed, improved security, enhanced budgeting and financial monitoring, access to exclusive rewards and discounts, and the opportunity to experience innovative payment methods. For cashless payment providers, this study offers valuable

insights into consumer behaviour that can drive market expansion, improve operational efficiency, unlock valuable data-driven opportunities, and sustain a competitive edge through ongoing innovation. Finally, for the government, a wider adoption of cashless transactions supports national priorities by boosting tax revenues, encouraging financial inclusion, fostering sustainable economic development, improving policymaking based on transaction data, and reducing illegal economic activities such as tax evasion and money laundering. Through a focused exploration of performance expectancy, effort expectancy, and social influence, this study aims to support Malaysia's vision of a more inclusive, secure, and sustainable cashless society. Based on previous studies, there are three variables which are performance expectancy, effort expectancy, and social influence that can enhance people's acceptance towards cashless payments. Each of these aspects could encourage people to use mobile payment. However, until now, there is a lack of surveys that focus on Malaysian citizen acceptance affected by performance expectancy, effort expectancy, and social influence towards cashless payments. Therefore, this survey will be conducted among Malaysians to identify their acceptance of using cashless payments. Hence, the objective of this study is to understand people's acceptance based on this variable.

Research Objectives

The following are the objectives of the study

- i. To identify the mean level of performance expectancy, effort expectancy, and social influence on consumer acceptance of cashless payment systems among the Malaysian citizens.
- ii. To examine the effect of performance expectancy, effort expectancy, and social influence on the acceptance of cashless payment systems among the Malaysian citizens.

Literature Review

There are four points will be discussed in the literature review which are UTAUT theory, performance expectancy, effort expectancy and social influence.

UTAUT Theory

Advances in technology have led to the growth of online payments, which are now a common form of payment. Utilizing cashless transactions decreases the possibility of theft, robbery, and other related crimes. Today, cashless payments have become one of the crucial components of the global economy, and they are perceived as an important determinant of economic expansion (Rahman et al., 2020). As a result, e-wallet providers need to understand how important it is to gauge how users view e-wallets in relation to behavioral outcomes like intention, retention, and repurchase loyalty. There is a lot of disagreement among academics on how various professionals embrace and use technology, and there are several theories that attempt to explain this relationship. Most studies have employed the most well-known theory, theory of planned behavior, to examine how individuals adopt information systems. This theory states that attitudes, social influence, and perceived behavioral control may all be considered when predicting intentions to act in ways that reflect a range of consumer views (Kamis et al., 2023b). The UTAUT model is a common theoretical framework for predicting and understanding how people will accept and use technology (Venkatesh et al., 2003). In the context of cashless payments, UTAUT provides a comprehensive perspective on the factors influencing individuals' willingness to embrace the online transfer of money. The model identifies key determinants such as performance expectancy (PE), effort expectancy (EE), and social influence (SI), which collectively shape users' attitudes and behavioral intentions toward

cashless transactions. Using the UTAUT model, this study examines the widespread acceptance and effective use of cashless payment systems.

Performance Expectancy

A research framework called UTAUT (Unified Theory of Acceptance and Use of Technology) aims to explain the reason people want to use technology and how they behave after doing so. Performance expectation, effort expectancy, social influence, and facilitating condition are the four main components that make up UTAUT and are directly related to usage and behavioral intention (Venkatesh et al., 2003). According to Venkatesh et al., performance expectation in UTAUT is often used to assess the degree to which consumers believe a system, such as new mobile technology, would improve their daily lives. The extent to which adopting technology would aid customers in executing activities defines the concept of performance expectation. The five components of related theories that aim to standardise performance expectations are: perceived usefulness, work fit, extrinsic motivation, relative advantage, and outcome expectations. In this study, performance expectation refers to the degree of certainty users have that using QR mobile payments will enhance their performance (Kamis et al., 2023b). Therefore, it is proposed that

H1: There is a significant relationship between performance expectancy and acceptance of cashless payment.

Effort Expectancy

Effort expectancy assesses how easy it is for individuals to use technology. In this study, effort expectancy refers to the minimal effort needed to complete payment using an online transaction such as QR payments (Musyaffi et al., 2021). A previous study suggests that people embrace technology that is beneficial and simple to use (Al-Saedi et al., 2020). It has been discovered that effort expectancy is an influential indicator of the tendency to use new technology in mobile payments (Al-Saedi et al., 2020). The behavioral intention of a user to utilise an NFC mobile wallet is positively correlated with EE (Shin & Lee, 2021). Mobile payment systems are more convenient and easier to use than conventional payment methods, including cash, debit cards, and credit cards (Gupta et al., 2020). Therefore, the study proposes that

H2: There is a significant relationship between effort expectancy and acceptance of cashless payment.

Social Influence

The situation known as social influence (SI) occurs when friends and relatives encourage someone to use e-money services. Other people's thoughts and responses impact how individuals view e-money services and their intentions to use them. SI influences behavioral intention to use e-wallets in a positive way (Jin et al., 2020a; Sukaris et al., 2021). In the early stages of using technology, people are often swayed and believed by the advice or comments of their friends, family, and other people in their immediate surroundings (PHAN et al., 2020). These results supported the concept that SI can influence consumers' opinions on the use of innovative products via technological services (Yang et al., 2021). Therefore, it is proposed that

H3: There is a significant relationship between social influence and acceptance of cashless payment.

Methodology

Population and Sample

In this study, the population refers to all people who are living in Malaysia. The population size is about 34.1 million people. The sample size has been identified based on several elements. Rahman et al. (2022) stated that a few elements must be taken into account to calculate the ideal sample size for a research study in Malaysia. Thus, the calculation of sample size has been identified based on population size, level of confidence and population heterogeneity.

$$\text{Sample Size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N} \right)} = \frac{\frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2}}{1 + \left(\frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2 (34100000)} \right)} = 384$$

Where,

P = standard of deviation

N = population size

Z = Z-score

E = Margin of error

Therefore, a study in Malaysia would benefit from a sample size of about 384 people, according to a sample size calculator that takes these variables into account.

Sampling Technique

A convenience sampling has been used because the sample size is not established proportionately based on population characteristics. Instead, convenient sampling will collect data from individuals who are readily available at a given time and location. This group could include people encountered in public spaces such as parks, shopping malls, or online platforms. Participants are chosen based on their willingness to participate rather than through random selection from each stratum. This practice means that individuals who are more accessible or willing to engage will be included in the sample, which may lead to biases in representation. Individuals are approached in convenient locations and invited to participate in the study. Convenience sampling can provide quick insights and preliminary data, it is important to acknowledge that the results may not be generalizable to the entire population of Malaysians due to potential biases and lack of representation inherent in this method.

Data Collection Method and Research Instrument

In this study, a structured questionnaire is the main tool used to collect data. Quantitative information on respondents' demographics, awareness of cashless payment methods, frequency of use, perceived dangers and benefits, and reasons influencing their decision to use or not use cashless payments will all be gathered using this questionnaire (Windasari et al., 2022). In-depth interviews and QR codes on Google Forms will also be used to gather qualitative data to obtain more profound insights. Through these interviews, researchers will be able to delve deeper into participants' motives, experiences, difficulties, and recommendations related to cashless payments. A Likert scale will be used to measure the acceptance of cashless payments among Malaysian citizens. Additionally, focus groups were conducted to gather diverse perspectives from different participant groups. Social conventions, cultural influences, and the

effects of technology and governmental regulations on the uptake of cashless payments will all be covered in these talks.

Figure 1 shows the conceptual framework for research. In this study, cashless acceptance is a dependent variable; meanwhile, the three independent variables are performance expectancy, effort expectancy and social influence.

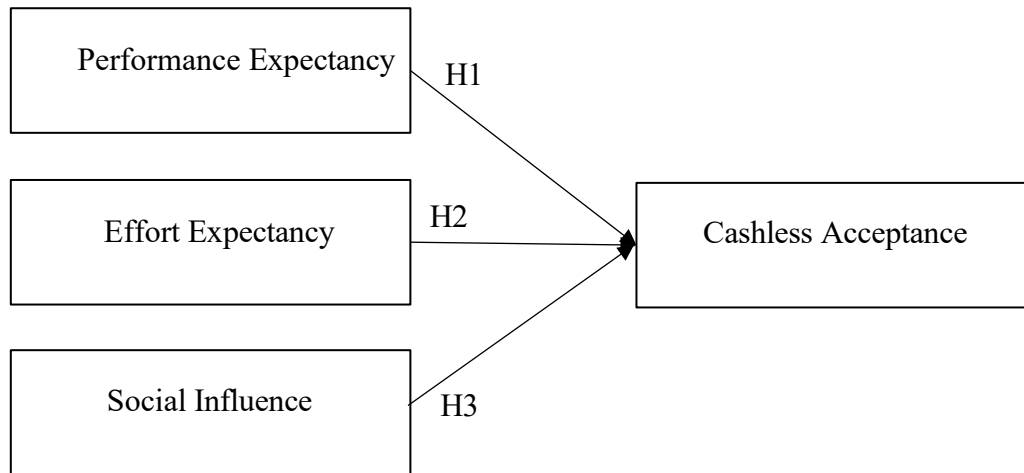


Figure 1: Conceptual Framework

The following are the three hypotheses that have been created in this study:

- H1: There is a significant relationship between performance expectancy and acceptance of cashless payment.
- H2: There is a significant relationship between effort expectancy and acceptance of cashless payment.
- H3: There is a significant relationship between social influence and acceptance of cashless payment.

Data Analysis

The collected data has been analysed using IBM SPSS Statistics 29. In this study, several statistical methods have been used to achieve its objectives, such as descriptive statistics and multiple linear regression. At first, descriptive statistics were employed to analyse the demographic characteristics of the respondents. A frequency table was utilised. The characteristics to be examined include gender, race, age, educational level, occupation, location, income, and preference for cashless payments. The mean and standard deviation also were employed to identify the mean level of performance expectancy, effort expectancy, and social influence on consumer acceptance of cashless payment systems. Then, a multiple linear regression analysis was conducted to investigate the independent variables regarding acceptance of cashless payment systems. The model is given by equation (1).

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \varepsilon \quad (1)$$

Where,

y = cashless acceptance

x_1 = performance expectancy

x_2 = effort expectancy

x_3 = social influence

Analysis and Findings

Descriptive Statistics

Table 1 shows that most respondents' occupations are students, comprising 53.6% (206 respondents). This distribution is followed by employees at 34.9% (134 respondents), while the unemployed and retirees represent smaller percentages, at 7.3% (28 respondents) and 4.2% (16 respondents), respectively. Most respondents are under the age of 25, accounting for 62.0% (238 respondents). This sample is followed by individuals aged 25–50 at 30.7% (118 respondents), and those over 51 years old make up 7.3% (28 respondents). Regarding education level, 45.8% of respondents (176 individuals) have post-secondary education, followed by 28.1% (108 respondents) with higher education and 26.0% (100 respondents) with only secondary education. Most respondents reside in urban areas, making up 65.4% (251 respondents). This proportion is followed by suburban residents at 23.2% (89 respondents) and rural residents at 11.5% (44 respondents). In terms of income, 51.8% (199 respondents) report having no income, followed by 31.3% (120 respondents) earning below RM3000. Only a small percentage earn RM3000–RM10,000 (13.8%; 53 respondents) or more than RM10,000 (3.1%; 12 respondents). Finally, most respondents (87.5%; 336 individuals) prefer cashless payment methods, while only 12.5% (48 individuals) do not.

Table 1: Socio-Demographic Characteristic Of Consumer Acceptance Of Cashless Payment Systems

Variables	Frequency (n)	Percentage (%)
Gender		
Male	148	38.5
Female	236	61.5
Races		
Malay	294	76.6
Chinese	47	12.2
Indian	22	5.7
Other	21	5.5

Age (in years)		
< 25	238	62.0
25 – 50	118	30.7
>50	28	7.3
Education Level		
Secondary Education	100	26.0
Post-secondary Education	176	45.8
Higher Education Occupation	108	28.1
Student	206	53.6
Employed	134	34.9
Unemployed	28	7.3
Retired	16	4.2
Location		
Urban	251	65.4
Suburban	89	23.2
Rural	44	11.5
Income		
RM0	199	51.8
< RM3000	120	31.3
RM3000 – RM10000	53	13.8
>RM10000	12	3.1
Prefer Cashless Payment		
Yes	336	87.5
No	48	12.5

Reliability Analysis (Internal consistency)

Internal consistency and reliability are used to evaluate the connection between each variable. Table 2 evaluates the internal consistency and reliability of constructs related to cashless acceptance, performance expectancy, effort expectancy, and social influence among Malaysian citizens, using a 1-to-5 Likert scale. 1-Strongly Agree, 2- Agree, 3-Neutral, 4-Disagree 5-Strongly disagree. This indicates the lower the better for the result analysis, especially for mean. The corrected item-total correlations for all items range from 0.496 to 0.807, exceeding the acceptable threshold of 0.3, which indicates strong connections between individual items and their respective constructs. Effort Expectancy demonstrates the highest reliability (Cronbach's Alpha = 0.954), reflecting strong cohesion among items assessing ease of use for cashless payments. Social Influence, with a Cronbach's Alpha of 0.909, also shows high reliability, although item S2 ("Celebrities can influence my behavior in using cashless payments") has the lowest correlation (0.496), suggesting weaker alignment with the overall construct. Performance Expectancy (Cronbach's Alpha = 0.909) and Cashless Acceptance (Cronbach's Alpha = 0.909) also exhibit strong reliability, with all item- total correlations exceeding 0.7.

Table 2: Internal Consistency Of Cashless Acceptance, Performance Expectancy, Effort Expectancy, And Social Influence Among The Malaysian Citizens (N=384)

Variable Code	Item	Corrected item-total correlation	
C1	I have been using cashless payment methods for some time now.	0.709	
C2	I am likely to increase the use of cashless payment in my daily life.	0.780	
C3	I always recommend to others to use cashless payments.	0.777	0.954
P1	Cashless payment is useful to save time.	0.751	
P2	Cashless payment would enable me to conduct tasks (financial transfer, shopping) more easily.	0.787	
P3	Cashless payment would increase my productivity.	0.763	
P4	Cashless payment would improve my work performance.	0.782	
E1	It would be simple for me to learn how to operate the cashless payment system.	0.807	
E2	I think the cashless payment system is flexible to interact with	0.788	
E3	I find it easy to learn and master on how to use the cashless payment system	0.789	
E4	Overall, I believe the cashless payment system is simple to operate.	0.790	
S1	Most of the important people around me use cashless payment for transactions	0.726	
S2	Celebrities can influence my behaviour in using cashless payment.	0.496	
S3	My family are likely to recommend me using cashless payments	0.701	
S4	My close friends are likely to recommend me using cashless payments	0.777	

The Mean Level of Performance Expectancy, Effort Expectancy, And Social Influence on Consumer Acceptance of Cashless Payment Systems

Table 3 presents the mean and standard deviation for performance expectancy, effort expectancy, and social influence related to cashless acceptance among Malaysian citizens. Performance expectancy had a mean score of 1.9414 (standard deviation = 0.8011), meaning that participants generally thought performance-related aspects were reasonably easy. The relatively low standard deviation indicates that participant ratings of that characteristic are changing significantly. The mean score for effort expectancy was the lowest (mean = 1.9134, standard deviation = 0.8210), indicating that participants typically thought cashless systems were easier to operate in terms of the amount of effort needed. This finding suggests that the simplest element for cashless acceptance was determined to be effort expectancy. The standard deviation shows considerable variability in replies, and it is somewhat bigger than the performance expectancy standard deviation. With the highest mean score (mean = 2.15, standard deviation = 0.83), social influence was considered by participants to be the most difficult or significant element influencing the adoption of cashless transactions. Participants' perceptions of social impact varied moderately, as indicated by the standard deviation.

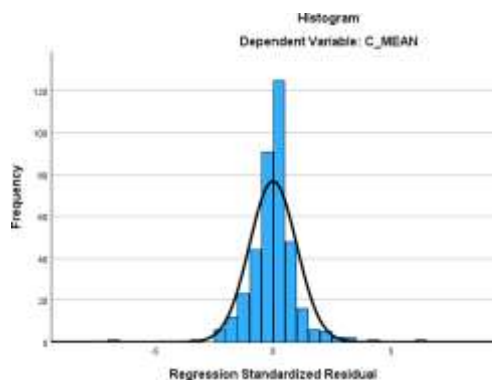
Table 3: The Summary Of Mean Of Performance Expectancy, Effort Expectancy And Social Influence Towards Cashless Acceptance Among Malaysian Citizens

Item	Mean	Standard Deviation
Performance Expectancy	1.9414	0.8011
Effort Expectancy	1.9134	0.8210
Social Influence	2.1523	0.8282

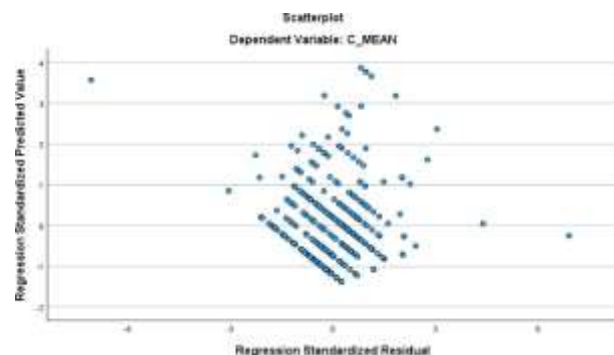
The Effect of Performance Expectancy, Effort Expectancy, And Social Influence on The Acceptance of Cashless Payment Systems

Before multiple linear regression was conducted, some assumptions needed to be checked to ensure that the data met the requirements for further analysis. To ensure there was no multicollinearity, a Pearson correlation coefficient was calculated to examine the relationship between performance expectancy, effort expectation, and social influence. The histogram of standardized residuals shows that the residuals are approximately normally distributed, as the frequency distribution closely aligns with the overlaid normal curve. The mean is approximately 0, and the standard deviation is close to 1, further supporting this assumption. Furthermore, there are no obvious patterns or trends in the scatterplot of standardized residuals against standardized projected values. The assumption of consistency is met, as the residuals seem to be randomly distributed. Clustering or a funnel-shaped distribution, which would indicate randomness, are not seen. The reliability of the regression model is ensured by these findings, which verify that the residuals' normality and consistency requirements are suitably met.

Table 4: Assumption of Data



The residuals are normally distributed.



The residual looks linear and scattered randomly based on the graph. There is equality of variance.

Based on Table 5, using multiple linear regression at a 95% confidence interval, we chose performance expectancy, effort expectancy and social influence as the factors that contribute to the acceptance of cashless payments. There was a strong positive correlation between performance expectancy and acceptability of cashless payment systems ($B = 0.465$, 95% CI [0.352, 0.577], p -value < 0.001). This finding implies that there is a significant correlation between the increasing acceptance of cashless payment methods and higher performance expectancy. The acceptance of cashless payments was also significantly positively correlated

with effort expectancy ($B = 0.151$, 95% CI [0.034, 0.269], p -value = 0.012). This shows that the adoption of cashless systems is positively influenced by decreased effort expectancy, but less than performance expectancy. Social influence had a strong positive effect, with a value of $B = 0.145$, meaning that when people are influenced by others, they are more likely to accept cashless payment systems. Preference for cashless payments exhibited the strongest positive relationship ($B = 0.584$, 95% CI [0.399, 0.768], p -value < 0.001). This result implies that people are far more likely to adopt cashless systems if they have a greater liking for them.

Table 5: Summary Of Performance Expectancy, Effort Expectancy, And Social Influence On The Acceptance Of Cashless Payment Systems Among The Malaysian Citizens

Multiple Linear Regression			
Item	B	95% CI	P-value
Performance Expectancy	0.465	(0.352, 0.577)	< 0.001
Effort Expectancy	0.151	(0.034, 0.269)	0.012
Social Influence	0.145	(0.053, 0.238)	0.002
Prefer Cashless	0.584	(0.399, 0.768)	< 0.001
Income Level	-0.710	(-0.129, 0.012)	0.19

Discussion

This study is conducted to determine the influence of performance expectancy, effort expectancy, and social influence on the acceptance of cashless payment systems among Malaysian citizens. The UTAUT model has been used as a theoretical framework. The findings show that performance expectancy has the most significant positive impact on the adoption of cashless payments. Empirical research indicates that basically individuals are highly willing to adopt cashless systems if they perceive them as beneficial in terms of convenience, speed, and productivity. These findings are consistent with earlier research studies (e.g., Venkatesh et al., 2003; Kamis et al., 2023b), showing that perceived usefulness is the core of technology adoption. In Tapah, where digital infrastructure is still unfolding, the perceived functionality of cashless systems is an effective catalyst for their use by making day-to-day transactions easier.

Meanwhile, effort expectancy also had a significant influence, but not as much as expected effort. This finding reinforces the idea that ease of use remains a crucial factor, especially for first-time users or older populations. Cashless payment platforms that are simple, intuitive, and require minimal technical knowledge are more likely to be embraced. This aligns with prior research (Al-Saedi et al., 2020; Shin & Lee, 2021), emphasizing that user experience and system design can greatly affect technology adoption. On the other hand, social influence had a significant, though moderate, effect on acceptance. The discovery aligns with studies indicating that individuals are influenced by peers, family, and societal norms, especially during the initial stages of technology adoption (Jin et al., 2020b; Yang et al., 2021). But the relatively reduced impact would mean that Malaysian users tend towards autonomous, self-interested decision-making rather than exclusively depending on other people's opinions. This kind of behavior might reflect higher digital literacy and personal confidence in technologies. Interestingly, income levels did not significantly predict acceptance. The finding implies that behavioural and perceptual factors may outweigh economic status in influencing adoption. Such results may be because of the widespread availability of free or low-cost digital payment

options and increasing smartphone penetration across income groups. These findings challenge assumptions that cashless systems are primarily accessible to higher-income populations.

Conclusion and Recommendations

This study proved that performance expectancy, effort expectancy, and social influence significantly affect the acceptance of cashless payment systems among Malaysian citizens. Among these, performance expectancy had the greatest impact, indicating that users are more likely to adopt systems they perceive as useful and efficient. Although effort expectancy and social influence also contribute positively, their effects are relatively moderate. However, income levels did not significantly influence adoption, suggesting that behavioural and technological factors may outweigh economic constraints in this context. These findings emphasize the importance of designing intuitive, user-friendly platforms and promoting cashless benefits through social and educational campaigns. Policymakers and service providers should focus on increasing trust, especially in rural or low-income segments, and address concerns such as security and usability. With targeted strategies, Malaysia can accelerate its transition toward a more inclusive and resilient cashless economy.

This study used convenience sampling and was geographically limited to Tapah, which may affect generalizability. Future research should consider stratified random sampling across different Malaysian states or incorporate qualitative interviews to explore user attitudes in depth. Additional variables, such as perceived risk, trust, and facilitating conditions, could also be explored to provide a more comprehensive understanding of digital payment behaviour.

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Conflict of Interest Statement

All authors declare that they have no conflicts of interest.

References

- Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, 62.
- Al-Saedi, K., Al-Emran, M., Ramayah, T., & Saeed, R. (2020). Towards understanding the determinants of mobile learning acceptance in higher education: A review. *Technology in Society*, 61, 101247.
- Gupta, A., Yousaf, A., & Mishra, A. (2020). How pre-adoption expectancies shape post-adoption continuance intentions: An extended expectation-confirmation model. *International Journal of Information Management*, 52.
- Jin, C. C., Seong, L. C., & Khin, A. A. (2020a). Consumers' Behavioural Intention to Accept of the Mobile Wallet in Malaysia. *Journal of Southwest Jiaotong University*, 55(1).
- Jin, X., Seong, S., & Park, J. (2020b). Factors affecting the adoption of mobile payment services: The moderating role of perceived risk. *Sustainability*, 12(24), 10520.
- Kamis, R., Isham Abidin, M., Hawariah Awang, A., Mohd Zain, Z., Ismail, S., & Hayati Abd Rahman, N. (2023a). COVID 19: E-wallet acceptance among low-income Malaysians using UTAUT Theory. 13(10).

- Kamis, A., Rahman, N., & Salleh, M. (2023b). Applying UTAUT to predict cashless payment acceptance: A Malaysian case. *Journal of Financial Technology & Innovation*, 6(3), 78–89.
- Lu, M. P., & Kosim, Z. (2024). An empirical study to explore the influence of the COVID-19 crisis on consumers' behaviour towards cashless payment in Malaysia. *Journal of Financial Services Marketing*, 29(1), 33–44.
- Mariah, S. (2024, August 28). Cybersecurity Stats: Facts And Figures You Should Know. Retrieved from Forbes.com: <https://www.forbes.com/advisor/education/it-and-tech/cybersecurity-statistics/>
- Musyaffi, A. M., Johari, R. J., Rosnidah, I., Sari, D. A. P., Amal, M. I., Tasyrifania, I., Pertiwia, S. A., & Sutanti, F. D. (2021). Digital Payment during Pandemic: An Extension of the Unified Model of QR Code. *Academic Journal of Interdisciplinary Studies*, 10(6), 213–223.
- Namahoot, K. S., & Boonchieng, E. (2023). UTAUT Determinants of Cashless Payment System Adoption in Thailand: A Hybrid SEM-Neural Network Approach. *SAGE Open*, 13(4).
- Payments Network Malaysia Sdn Bhd. (2022, April 6). *PayNet Digital Payments Insights Study 2022: Weathering the pandemic* (inaugural consumer and SME payments behaviour report). Nielsen IQ field survey (Q4 2021). PayNet.
- Phan, T. N., Ho, T. V., & Le-Hoang, P. V. (2020). Factors Affecting the Behavioral Intention and Behavior of Using E-Wallets of Youth in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(10), 295–302.
- Rahman, M., Ismail, I., & Bahri, S. (2020). Analysing consumer adoption of cashless payment in Malaysia. *Digital Business*, 1(1).
- Rahman, M., Ismail, I., Bahri, S., & Rahman, M. K. (2022). An Empirical Analysis of Cashless Payment Systems for Business Transactions. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4).
- Selva Raj, A. (2024). Trends in mobile transactions and fintech innovation in Malaysia. *Banking and Digital Economy Review*, 7(1), 99–112.
- Shin, S., & Lee, W. J. (2021). Factors affecting user acceptance for NFC mobile wallets in the U.S. and Korea. *Innovation and Management Review*, 18(4), 417–433.
- Sukaris, S., Renedi, W., Rizqi, M. A., & Pristiyadi, B. (2021). Usage Behavior on Digital Wallet: Perspective of the Theory of Unification of Acceptance and Use of Technology Models. *Journal of Physics: Conference Series*, 1764(1).
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. In Source: *MIS Quarterly*, 27(3).
- Windasari, N. A., Kusumawati, N., Larasati, N., & Amelia, R. P. (2022). Digital-only banking experience: Insights from gen Y and gen Z. *Journal of Innovation and Knowledge*, 7(2).
- Yang, M., Al Mamun, A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability (Switzerland)*, 13(2), 1–18.